

REMARKS

The Applicants would like to thank the Examiner for the telephone interview held January 23, 2003. In the telephone interview, the Examiner agreed to consider the claims amendments discussed below under the heading Claim Amendments. The Applicants also request that the Examiner update the Interview Summary issued January 28, 2003 to indicate that the interview was held with Michael Rasmussen and not Ross Schmitt.

Drawings

The Examiner objects to the drawings as not disclosing the limitation “a metal plug contact disposed outside a contact region.” This limitation is clearly depicted in Fig. 3 as originally filed, and in Fig. 3 provided with the response of March 28, 2002, responding to the Official Action of December 28, 2001. This objection is respectfully requested to be withdrawn.

Claim Amendments

Claims 1 and 5 have been amended to include the limitations of claims 21 and 22, respectively. Claims 9 and 13 have been amended to recite the language “wherein said metal plug contact is isolated from said contact region”.

Claim Rejections

Claims 1 and 5

Claims 1 and 5 were each rejected under 35 U.S.C. 102(e) as being anticipated by Scott et al., and 35 U.S.C. 102(b) as being anticipated by Sur Jr. et al. The Applicants respectfully disagree for

the reasons discussed below.

Claims 1 and 5 both recite the language “wherein said metal plug contact contacts said field oxide layer”. This language was originally found in claims 21 and 22 which the Examiner rejected under 35 U.S.C. 102(e) as being anticipated by Scott et al. The Examiner at page 4 of the Official Action asserts “Scott et al. discloses on figure 6 said metal plug 26 contacts field oxide layer 22.” Scott does not disclose such a feature. As is clearly shown in Figs. 5 and 6 of Scott, a layer of silicide is deposited adjacent the field oxide layer. The silicide is deposited such that it resides at an elevated position with respect to the field oxide layer. The metal plug is then deposited on the silicide. As such, it is impossible for the metal plug contact to contact the field oxide layer as required by claims 1 and 5.

Sur Jr. et al, also does not disclose such a feature. As discussed by the Examiner at page 6 of the Official Action, Fig. 13 of Sur discloses a field oxide layer 12 and a metal plug contact 36. However, it is clear that the metal plug contact 36 does not contact the field oxide layer 12.

It is therefore submitted that claims 1 and 5 are patentable over Scott et al. and Sur Jr. et al. Since claims 2-4, 6-8, and 17-18 are directly or indirectly dependent on claims 1 and 5, claims 2-4, 6-8, and 17-18 are patentable by virtue of their dependency on patentable claims 1 and 5.

Claims 9 and 13

The Examiner rejects claims 9 and 13 under 35 U.S.C. 102(e) as being anticipated by Deboer et al. and under 35 U.S.C. 102(b) as being anticipated by Chuang. The Applicants respectfully disagree for the reasons discussed below.

Claims 9 and 13 both recite the language “wherein said metal plug contact is isolated from said

contact region". In the Official Action, the Examiner asserts that Fig. 5 of Deboer discloses metal plug contact 39. During the telephone interview with the Examiner, the Applicant questioned where Deboer discloses a contact region, since the Official Action did not distinctly point out where Deboer discloses a contact region. The Examiner asserted that reference numerals 18a and 18b shown in Fig. 2 of Deboer, disclose contact regions. However, as is clearly shown in Fig. 5, as well as in Fig. 2, the metal plug contacts 39 are not isolated from the contact regions. The metal plug contacts and contact regions are in direct contact. Therefore, Deboer does not disclose "wherein said metal plug contact is isolated from said contact region" as claimed in claims 9 and 13.

At page 6 of the Official Action, the Examiner asserts that Fig. 2I of Chuang discloses all the limitations of claims 9 and 13, but does not specifically indicate where these features are located in Chuang. During the telephone interview, it was agreed upon, that Chuang discloses a metal plug contact 228, field oxide layer 202, and silicide layer 220 which is part of a contact region. As is clearly shown in Fig. 2I, the metal plug contact is in contact with layer 220. As such, Chuang does not disclose the limitation "wherein said metal plug contact is isolated from said contact region" as claimed in claims 9 and 13.

It is therefore submitted that claims 9 and 13 are patentable over Scott et al. and Sur Jr. et al. Since claims 10-12, 14-16, 19-20, and 23-24 are directly or indirectly dependent on claims 1 and 5, claims 10-12, 14-16, 19-20, and 23-24 are patentable by virtue of their dependency on patentable claims 9 and 13.

Conclusion

Hence, the Applicants respectfully submit that in light of the remarks above, all previous rejections of the claims have been overcome. Therefore, the Applicants submit that the claims

are allowable over the prior art that has been cited. Favorable consideration and prompt allowance are earnestly solicited.

The Commissioner is authorized to charge any additional fees which may be required or credit overpayment to deposit account no. 12-0415. In particular, if this response is not timely filed, the Commissioner is authorized to treat this response as including a petition to extend the time period pursuant to 37 CFR 1.136(a) requesting an extension of time of the number of months necessary to make this response timely filed and the petition fee due in connection therewith may be charged to deposit account no. 12-0415.

Reconsideration is respectfully requested.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C., 20231 on:

February 6, 2003

(Date of Deposit)

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02/06/03

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Respectfully submitted,

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1. (Amended) A semiconducting device adapted to prevent and/or to thwart reverse engineering, comprising:
 - (a) field oxide layer disposed on a semiconductor substrate;
 - (b) a metal plug contact disposed within a contact region and above said field oxide layer, wherein said metal plug contact contacts said field oxide layer; and
 - (c) a metal connected to said metal plug contact.

5. (Amended) A method for preventing and/or thwarting reverse engineering, comprising steps of:
 - (a) providing a field oxide layer disposed on a semiconductor substrate;
 - (b) providing a metal plug contact disposed within a contact region and above said field oxide layer, wherein said metal plug contact contacts said field oxide layer; and
 - (c) connecting a metal to said metal plug contact.

9. (Amended) A semiconducting device adapted to prevent and/or to thwart reverse engineering, comprising:
 - (a) field oxide layer disposed on a semiconductor substrate;
 - (b) a metal plug contact disposed outside a contact region and above said field oxide layer, wherein said metal plug contact is isolated from said contact region; and
 - (c) a metal connected to said metal plug contact.

13. (Amended) A method for preventing and/or thwarting reverse engineering, comprising steps of:
 - (a) providing a field oxide layer disposed on a semiconductor substrate;
 - (b) providing a metal plug contact disposed outside a contact region and above said field oxide layer, wherein said metal plug contact is isolated from said contact region; and
 - (c) connecting a metal to said metal plug contact.